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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/055,068 | 01/22/2002 | Kunal Mitra | FIT-100XC1 | 7408 |

23557 7590 10/06/2003

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EXAMINER

PATEL, HARSHAD R

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/055,068

Applicant(s)

MITRA ET AL.

Examiner

Harshad Patel

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Specification

1. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it is more than 150 words.

Correction is required. See MPEP § 608.01(b).

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include reference sign(s). There is no clear figure that describes the invention. The specification does not describe the figures in detail using reference numerals. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the reflecting tip comprising a first and second portion of glass (claim 6); a means for receiving (claim 16); a second tapered cylinder (claim 17) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Applicant is advised that the drawings be shown with reference numerals and accordingly the specification to be corrected. These are only a few objections mentioned.

Specification

6. The disclosure is objected to because of the following informalities: At page 14, line 9, the phrase "x-ray source can capable ----" is not clear. There is no clear explanation as to what the invention is. In the summary of invention, the applicant refers to that the need is for an apparatus and method for providing a non-invasive procedure for delivering highly controlled dose of x-ray, however, the claims indicate the waveguide is used to irradiate the x-ray inside the body after the balloon angioplasty. There is no proper detailed description of each figure. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-20, and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, it is unclear as to the wave guide comprising a first end a second end since in claim 4, it refers to the first tapered cylinder is coupled to the first end of the waveguide and in claim 5, it indicates that the x-ray irradiation exiting the second end of the waveguide is incident on the reflecting tip. There is no clear understanding of the first and second ends as shown in the drawings. It is also unclear as to what the means for directing the x-ray irradiation is the applicant referring to.

Claim 16, it is unclear as to what the means for receiving is the applicant referring. No such element is described in the specification.

Claims 17 and 37, it is unclear as to what the second tapered cylinder is the applicant referring to.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. Claims 1-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thiel et al. (5,101,422) in view of Loxley et al. (6,504,901) (hereinafter Thiel or Loxley).

Thiel teaches an apparatus and method for delivering x-ray irradiation to a target comprising a means for generating x-ray irradiation (80), a hollow waveguide (22) having a first end and a second end, a means for coupling (10), in form of a tapered hollow cylinder, x-ray irradiation into the first end of the waveguide and a means for directing (14) the x-ray irradiation exiting the second end of the waveguide to a target. Thiel does not explicitly teach the waveguide however, the capillary is surrounded by the guiding element (22), which could be a waveguide as claimed. Thiel teaches the tip of the tapered cylinder to be a reflecting tube and made from glass (col. 3, lines 34-37). The applicant has not thoroughly described the use of a second portion of glass having different index of refraction than the first glass portion. It would have been a matter of design choice since there is no clear explanation in doing so and thus any structure would function equally with or without the second portion. As to the second cylinder Loxley teaches the use of plurality of tapered cylinders. It would have been obvious to skilled artisan at the time the invention was made to use a multiple of such tapered cylinders since providing multiple cylinders would provide efficient and reliable results.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jones (5,866,914) and Lewis et al. (5,001,737) teaches the use of tapered hollow cylinders to direct the x-ray irradiations from a source to a target.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harshad Patel whose telephone number is (703) 305-4935. The examiner can normally be reached on Monday-Thursday (7:00 AM-5:30 PM).



Harshad Patel
Primary Examiner
Art Unit 2855

hp
September 16, 2003